

**Remarks**

Reconsideration and allowance of the subject patent application are respectfully requested.

Claims 1, 4-6, 8, 10, 11 and 13-16 were rejected under 35 U.S.C. Section 112, first paragraph, as allegedly being based on a non-enabling disclosure. According to the office action, the claims do not include a "positive element" that yields the claimed positioning of the one-dimensional spatial modulating unit.

While Applicant does not agree with or acquiesce in the Section 112, first paragraph, rejection, claim 1 has been amended to recite that the recording optical system fixedly positions and holds the laser light source, the dividing unit and the one-dimensional spatial modulating unit and that the recording optical system positions the one-dimensional spatial modulating unit such that an alignment direction of the plurality of gratings is oblique with respect to a direction perpendicular to the moving direction of the recording medium at the irradiation position. Similar amendments have been made to claims 8, 11 and 15. These amendments find support in the disclosure at, for example, page 3, lines 20-21 which describe the optical system as "fixed" and page 10, lines 3-11 which describe that the optical system as including the laser light source 1, an expander 2, a one-dimensional spatial modulator 3, etc.

One of ordinary skill in the art would readily understand that the components of a fixed optical system are fixedly positioned and held by positioning and/or holding mechanisms. Consequently, one of ordinary skill in the art would readily understand the left part of Figure 6B and the related description to disclose by way of example that the one dimensional spatial modulating unit 3 is fixedly positioned and held by a positioning or holding mechanism such that the alignment direction of the gratings corresponds to the direction perpendicular to the moving direction of the recording medium (i.e., radial direction of the recording medium). Similarly, one of ordinary skill in the art would readily understand the right part of Figure 6B and the related description (e.g., page 13, line 33 to page 15, line 18) to disclose by way of example that the optical system positions and holds the one-dimensional spatial modulating unit such that an alignment direction of the plurality of gratings is oblique with respect to a direction perpendicular to the moving direction of the recording medium at the irradiation position. Specifically, because the subject application describes that the optical system (which includes the

one-dimensional spatial modulating unit 3) is fixed (page 3, lines 21-22) and that the direction of the gratings of the one-dimensional spatial modulating unit 3 is oblique with respect to a direction perpendicular to the moving direction of the recording medium at the irradiation position (page 15, lines 12-16), one of ordinary skill in the art would readily understand that the one-dimensional spatial modulating unit is fixedly positioned as recited in the claims.

Moreover, the claims now positively recite the positioning of the one-dimensional spatial modulating unit.

Withdrawal of the Section 112, first paragraph, rejection is respectfully requested.

Claims 1, 4, 6, 8, 10, 11 and 13-16 were rejected under 35 U.S.C. Section 102(b) as allegedly being "anticipated", or in the alternative, under 35 U.S.C. Section 103(a) as allegedly being made "obvious", by Ishii et al. (U.S. Patent No 4,012,108) further considered with Campbell et al. (U.S. Patent No. 5,844,701).

Amended claim 1 recites that "*the one-dimensional spatial modulating unit comprises a grating configuration including a plurality of gratings*" and that "*the recording optical system positions the one-dimensional spatial modulating unit such that an alignment direction of the plurality of gratings is oblique with respect to a direction perpendicular to a moving direction of the recording medium at the irradiation position by the moving unit.*" Independent claims 8, 11 and 15 contain similar features.

Ishii et al. does not disclose the apparatuses or methods set forth in independent claims 1, 8, 11 and 15 and those claims that depend therefrom.

In Ishii et al., the light switch array 27 allegedly corresponding to the claimed one-dimensional modulating unit is positioned such that the alignment direction of the light switches 28 is not oblique to the moving direction of the recording medium 40, as shown in Figures 1 and 4. Because Ishii et al. does not show gratings as claimed, Ishii et al. cannot anticipate independent claims 1, 8, 11 and 15 or those claims that depend therefrom.

The office action makes reference to Campbell et al. as allegedly teaching "in this environment, the ability of having a plurality of alternative embodiments for the one-dimensional Fourier imager which are equivalent to each other, see the discussion at paragraph (sic) 7, starting at line 52 in Campbell et al." Applicant disagrees that Campbell et al. somehow

remedies the deficiencies of Ishii et al.

Campbell et al. describes systems and methods for steering a complex, spatially-modulated incident beam of light from a spatial light modulator to gain access to data locations in a holographic memory cell. Campbell et al., col. 3, lines 24-27. In the context of these systems and methods, Campbell et al. notes that the spatial light modulator can be moved in various manners, including rotation. Campbell et al., col. 7, lines 56-60. However, nowhere in this description is there any disclosure or suggestion of how gratings of a spatial modulator should be oriented relative to a moving direction of a recording medium. Indeed, Applicant understands Campbell et al. to be mainly concerned with steering a beam over a stationary recording medium.

Campbell et al. contains a generalized statement that the spatial light modulator may be held at a fixed position and the HMC may be translated and/or rotated instead. Campbell et al., col. 7, lines 64-67. However, this statement provides no disclosure or suggestion with respect to how gratings should be oriented relative to the HMC in this situation, much less that they should be oriented in the manner set forth in the claims.

Consequently, the proposed combination of Campbell et al. with Ishii et al. would not have resulted in the subject matter of independent claims 1, 8, 11 and 15 or the claims that depend therefrom.

Claims 3 and 5 were rejected under 35 U.S.C. Section 103(a) as allegedly being made "obvious" by Ishii et al. taken alone or in combination with Campbell et al., further in view of Satoh et al. '489. Claim 3 was previously canceled and thus the rejection of this claim is moot. Satoh et al. '489 is applied in connection with the recitation in claim 5 of the recording medium being a disc. Even assuming for the sake of argument that this aspect of Satoh et al. '489 were properly combinable with Ishii et al., or with the result of combining Ishii et al. and Campbell et al., Satoh et al. '489 (as is apparent from the further discussion of this patent below) does not remedy the deficiencies of Ishii et al. and Campbell et al. with respect to claim 1, from which claim 5 depends.

Claims 1, 3, 4, 5, 6, 8, 10, 11 and 13-16 were rejected under 35 U.S.C. Section 102(b) as allegedly being "anticipated", or in the alternative under 35 U.S.C. Section 103(a) as allegedly

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being made obvious, by, Satoh et al. '489 (U.S. Patent No. 4,104,489) or Satoh et al. '480 (U.S. Patent No. 4,224,480) each further considered with Campbell et al. As noted above, claim 3 was previously canceled and thus this rejection of claim 3 is moot.


In the Satoh et al. patents, the light modulator 32 (see Figure 1B) is clearly not positioned such that the alignment direction of gratings is oblique with respect to a direction perpendicular to the moving direction of the disc 20 at the irradiation position. The radial symmetry of the holograms 16a of Figure 6 belies any suggestion that the Satoh et al. references disclose or suggest the claimed features.

Campbell et al. is deficient as noted above and consequently the proposed combination of Campbell et al. with either of the Satoh et al. patents would not have resulted in the subject matter of independent claims 1, 8, 11 and 15 or the claims that depend therefrom.

The pending claims are believed to be allowable and favorable office action is respectfully requested.

Respectfully submitted,

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